

SCHOOL OF ENGINEERING

Department of Electronics and Communication Engineering

Report

On

A 5-day Student Development Program on

Designing of Image & Signal Processing Applications Based on

ML/DL Algorithms using Python & MATLAB

(22nd to 26th April 2025)

The Department of ECE, SisCom Club Team successfully conducted five days student development program (SDP) on " Designing of Image & Signal Processing Applications Based on ML/DL Algorithms using Python & MATLAB" for II B.Tech students on 22nd to 26th of April 2025. The aim of this workshop is to provide an insight on importance of Machine Learning/Deep Learning Algorithms for digital image processing and speech processing applications. The workshop comprises of theoretical lectures delivered by department faculties and also live demonstration of the software and various toolboxes. Total 37 students were registered for the workshop.

The students got an exposure to MATLAB coding, Python coding, signal processing and image processing toolboxes. As an outcome of the workshop, the students were able to implement a programming code, design automotive models using MATLAB and Python, process image, audio and speech and utilize Machine Learning tools. Dr. V. Sravan Kumar, Mrs.K.MADHAVI, Dr. S.Karthick, Mr.N.Suresh Reddy, and Mr.Ch.Phanindra acted as Faculty Coordinators for the five-day SDP.

Day-1:

The workshop was inaugurated by Dean-School of Engineering and Head of the Department, ECE in the ECE seminar hall at 9:30am.

In the morning session after the inauguration Dr. V Sravan Kumar as resource person delivered theoretical concepts on “Introduction to Digital Image processing”.



In Afternoon session Hands on Training on “Loading and Displaying Images using GUI/MATLAB”



Day-2:

In the morning 1st session & 2nd session Mrs.K.Madhavi as resource person delivered a theoretical and hands on session using Python (Google Colab) on “Introduction to Python libraries in Image Processing”.



In afternoon “Hands on session on Developing Image Processing Applications” using Python.

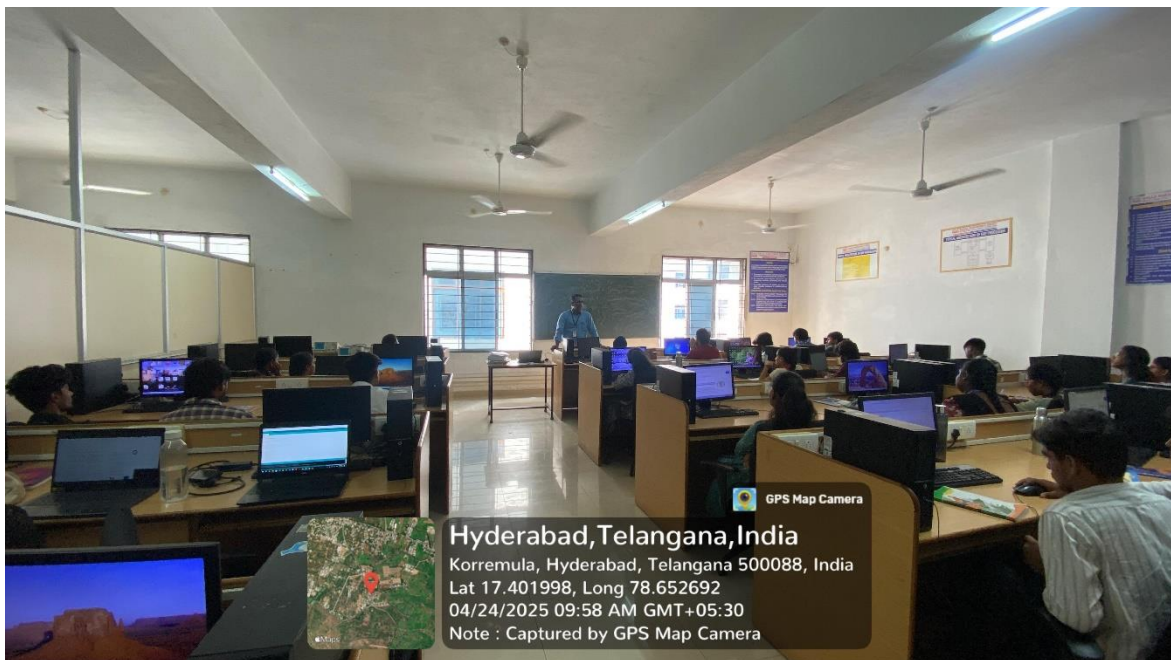


Day-3:

In the morning session Mr. N. Suresh as resource person delivered a theoretical session on “Introduction to Machine Learning and Deep Learning Algorithms”.



In the morning 2nd session “Hands on session on Developing Machine Learning and Deep Learning based Applications” using Python by SiSCom Club Team



In afternoon session “Hands on Session using MATLAB & PYTHON” by SiSCom Club Team.



Day-4:

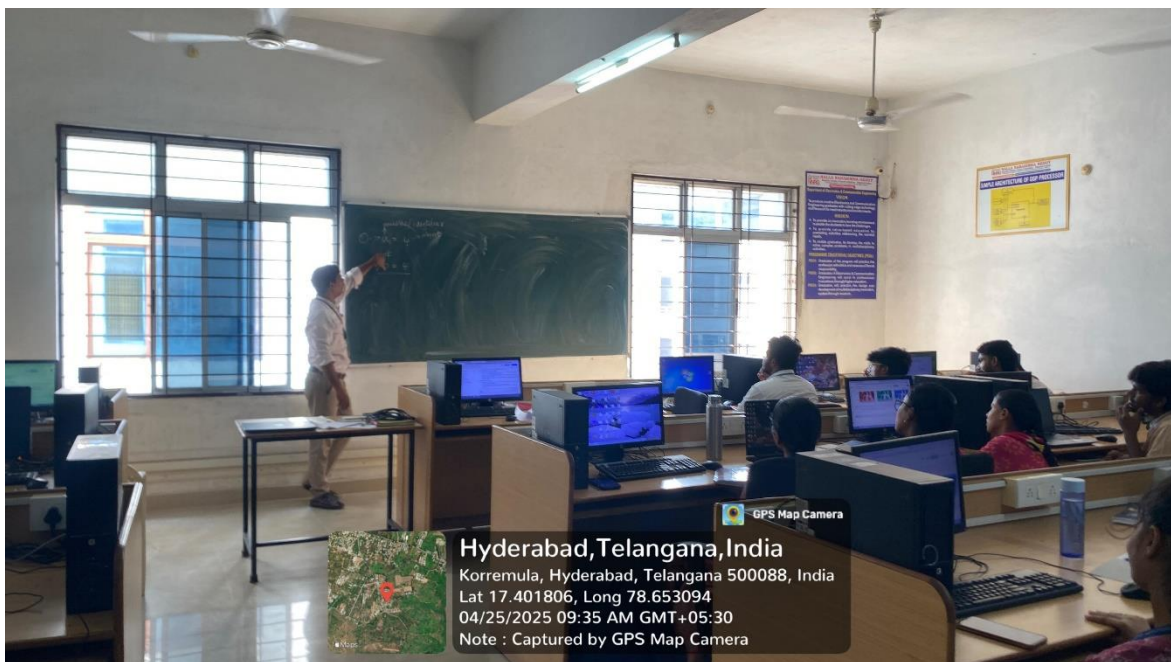
In the morning session Mr. Ch Phanindra as resource person delivered a theoretical session on “Applications of Signal Processing”.



In the morning 2nd session Mr. Koustubh Kulkarni as resource person delivered a theoretical session on “Image/Video Coding Methods”.



In afternoon session Dr. S. Karthick as resource person delivered theoretical and hands on session on “Python Programming for Signal, Image and Speech Processing”



Day-5:

In the morning 1st session & 2nd session hands on session by SiSCom Club Team for project execution by the students.



In afternoon session conducted Assessment Test and took Feedback from the students on 5-day SDP program.

SDP Outcomes

After the completion of Student Development Program, the students were able to

SO1: Develop Codes in the MATLAB, compile, debug and visualize the output.

SO2: Design a ML/DL model using Python/MATLAB.

SO3: Process speech, image and video signals and analyze the output.

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	P10	P11	P12	PSO1	PSO2
SO1	3	2	3	1	1	-	-	-	1	1	-	2	2	3
SO2	3	2	3	1	2	-	-	-	1	1	-	2	2	3
SO3	3	2	3	1	2	-	-	-	1	1	-	2	2	2
AVG	3	2	3	1	1.6				1	1		2	2	2.6

SDP Coordinator

Club Coordinator

Club Mentor

H.O.D